REMARKS

In view of the above amendments and the following remarks, reconsideration of the outstanding office action is respectfully requested.

Applicants notify the U.S. Patent and Trademark Office of copending U.S. Patent Application Serial No. 10/651,416.

Applicants note that the restriction requirement has been made final. Claims 1-19 and 24-31 have been cancelled.

The rejection of claims 20-23 under 35 U.S.C. § 103(a) for obviousness over U.S. Patent No. 6,013,431 to Soderlund et al. ("Soderlund") in view of U.S. Patent No. 5,849,544 to Harris ("Harris") is respectfully traversed.

Soderlund relates to methods of determining nucleotide variation by primer extension. Soderlund relates to amplifying the target nucleic acid prior to hybridizing the amplified target nucleic acid to a detecting primer, therefore, Soderlund does not disclose or suggest a solid support which includes a target nucleic acid molecule which has not been amplified.

Harris relates to methods of amplification and target detection techniques. As in Soderlund, Harris discloses methods in which amplification of the target nucleic acid is required. Harris does not disclose or suggest a solid support which includes a target nucleic acid molecule which has not been amplified.

Further, contrary to the position of the U.S. Patent and Trademark Office, Soderlund (either alone or in combination with Harris) does not teach or suggest a solid support which includes a capture probe, one or more target capture probes and a discrimination extender. After amplification and separation, Soderlund teaches detection step primers. Applicants believe that the PTO considers these detection step primers to be discrimination extenders. However, Soderlund does not teach or suggest target capture probes or target capture extenders. Thus, Harris cannot be relied upon for the modification of the target

capture extenders of Soderlund, as suggested by the PTO, because Soderlund does not teach target capture extenders.

Further, the detection step primers of Soderlund are designed to hybridize immediately or closely adjacent to the variable nucleotide to be detected (column 7, lines 15-19). Soderlund (either alone or in combination with Harris) does not teach or suggest a discrimination extender where the nucleotide at the 3′ or 5′ terminus of the discrimination extender is complementary to a single nucleotide polymorphism position of an allele.

In contrast, claims 20-23 of the present application relate to a solid support which includes a target nucleic acid molecule which has not been amplified. As set out in paragraph 0006 of the present application as filed, there is a need for assays that allow for highly sensitive, highly selective detection of nucleic acids directly from genomic DNA, without prior amplification. Further, claims 20-23 relate to a solid support which includes a discrimination extender with a sequence where the nucleotide at the 3′ terminus of the discrimination extender is complementary to a single nucleotide polymorphism position of an allele (as set out in (a) and (b) of claim 20) or where the discrimination extender has a sequence where the nucleotide at the 5′ terminus of the discrimination extender is complementary to a single nucleotide polymorphism position of an allele (as set out in (b) of claim 20).

Because the cited references (and, therefore, the combination of the cited references) does not teach or suggest these limitations, the rejection is improper and should be withdrawn.

The rejection of claims 20-23 under 35 U.S.C. § 103(a)

for obviousness over U.S. Patent No. 5,635,352 to Urdea et al ("Urdea") in view of Soderlund and Harris is respectfully traversed.

Urdea relates to nucleic acid sandwich assays and, particularly, assays which use amplification multimers to bind more label. Urdea discloses capture probes and capture extenders for hybridizing analyte nucleic acids. However, Urdea does not disclose or suggest a discrimination extender. Further, Urdea does not disclose or suggest a discrimination extender with an unblocked 3′ terminus and a sequence complementary to a sequence on a capture probe and a target nucleic acid molecule where the nucleotide at the 3′ terminus of the discrimination extender is complementary to a single nucleotide polymorphism position of an allele (as set out in (a) and (b) of claim 20). Further, Urdea does not disclose or suggest a discrimination extender with an unphosphorylated 5′ terminus and a sequence complementary to a sequence on a capture probe and a target nucleic acid molecule where the nucleotide at the 5′ terminus of the discrimination extender is complementary to a single nucleotide polymorphism position of an allele (as set out in (b) of claim 20). These deficiencies are not overcome by Soderlund or Harris, for the reasons as discussed above for the previous rejection.

Accordingly, the rejection of claims 20-23 for obviousness over Urdea in view of Soderlund and Harris is improper and should be withdrawn.

In view of the foregoing, applicants submit that this case is in condition for allowance and such allowance is earnestly solicited.

Respectfully submitted,

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